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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,877	03/29/2006	Yoshihiko Chosa	071971-0513	7073

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MCDERMOTT WILL & EMERY LLP  
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WASHINGTON, DC 20005-3096

EXAMINER
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SAWHNEY, HARGOBIND S

ART UNIT	PAPER NUMBER
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2885

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,877	<b>Applicant(s)</b> CHOSA ET AL.	
	<b>Examiner</b> HARGOBIND S. SAWHNEY	<b>Art Unit</b> 2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/29/07, 3/29/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The preliminary amendment filed on March 29, 2006 has been entered.

Accordingly:

- The specification has been amended;
- Claims 1, 3, 5-7 and 11 have been amended; and
- The replacement sheets showing amended figures 6-9 has been entered.

### ***Claim Objections***

2. Claims 9-11 are objected to because of the following informalities:

Claim 9, line 1, "a surface emitting device" is misleading. It should be rephrased as -- a surface light emitting device --. As each of claims 10 and 11 includes deficiency similar to that in claim 9 discussed above, claims 10 and 11 are also objected.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No.: JP 5-38627 A (Honda).

Regarding claims 9 and 10, Honda discloses a surface light emitting device comprising:

- a light guide 21 capturing light emitted by light emitting elements 23 connected to a wiring board 22 (Figure 1, English translated abstract); the light guide emitting light from its entire surface (Figure 1, English translated abstract); the light-emitting elements 23 being die-bonded to the wiring board, the light-exit face of the light-emitting elements 23 being parallel to the side surface of the light guide plate 21 (Figure 1, English translated abstract); and the center of the light-emitting elements 23 being at the same level as the longitudinal center line of the side surface of the light guide 21 (Figures 1-3, English translated abstract).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No.: JP 5-38627 A (Honda).

Honda discloses a surface light emitting device comprising a light guide capturing light emitted by light emitting elements connected to a rectangular wiring board as applied to claim 9 discussed in section 4 above. However, Honda does not specifically teach the wiring board being shaped as a square rod corresponding to the thickness of the light guide.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the surface light emitting device of Honda by providing the wiring boards having a square cross-sectional rod, since it has been held that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). It appears that the device disclosed by Honda would perform equally well with wiring board of rectangular or square cross-section.

7. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,930,332 B2 (Hashimoto et al.).

Regarding claim 1, Hashimoto et al. discloses a surface light emitting device comprising a plurality of light-emitting elements 1 spaced along the longitudinal direction and on the component side of a wiring board 60 having rectangular cross-section (Figure 4, column 7, lines 63-67). However, Hashimoto et al. does not specifically teach the wiring board being square rod-shaped wiring board.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the surface light emitting device of Hashimoto et al. by

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providing the wiring boards having a square cross-sectional rod, since it has been held that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). It appears that the device disclosed by Hashimoto et al. would perform equally well with wiring board of rectangular or square cross-section.

Additionally, regarding claims 1-5, Hashimoto et al., as modified above, discloses the surface light-emitting source further comprising:

- a plurality of reflectors 11a arranged alternately on both sides of the light-emitting elements 1 mounted on the component sides of the wiring board 60 (Figures 4, column 6, lines 40-43); the adjacent two reflectors 11a having opposing sides facing each other with the light-emitting element 1 sandwiched therebetween (Figure 4); the opposing sides of reflectors being inclined with the distance increasing in the direction of light emitted from the light emitting element 1 (Figure 4);
- the opposing surfaces of the reflector being rectangular - the slanted surface defining half of the tapered cylinder has been broadly interpreted as rectangular (Figure 4, column 5, lines 42-48); resin seal layers 62b filling recesses 50 defined by component side of the wiring board 12, the light-emitting element 1 and the opposite surfaces of the reflector 11a (Figure 4, column 7, lines 51-55);

- the resin layers 62b having its faces contacting the wiring board 12 (Figure 4, column 7, lines 51-55) , the reflectors 11a being mirror finished – operationally required for effective reflection of light (Figure 4); the end face of the resin layer 62b being flushed with the end face of the wiring board 12 (Figure 4); and the resin layer having its end face - the bottom face - opposite to the flushed face – top face – flushed with the bottom surface of the reflector 11a providing a single plane (Figure 4).

Regarding method claims 7 and 8, Hashimoto et al. discloses an apparatus comprising all structural elements as applied the apparatus claims 1-5 discussed above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to formulate method steps by applying the teaching of apparatus claims 1-5, and thus meet the limitations of method claims 7 and 8.

It has also been held that to be entitled to weight in method claims, the recited structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure [*Ex parte Pfeiffer*, 1962 C.D. 408 (1961)].

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,930,332 B2 (Hashimoto et al.) in view of Japanese Patent No.: JP 5-38627 A (Honda).

Hashimoto et al., as modified above, discloses the surface light-emitting source comprising the following features as applied to claim 1 discussed in section 7 above.

- A plurality of light-emitting elements spaced along the longitudinal direction and on the component side of a wiring board; and a plurality of reflectors 11a arranged alternately on both sides of the light-emitting elements 1 mounted on the component sides of the wiring board.

However, Hashimoto et al. does not specifically teach a reflection element disposed at the end face of the wiring board and extending in the longitudinal direction to the tip of the opposing surfaces of the reflectors.

On the other hand, Honda discloses light emitting elements 23 connected to a wiring board 22 (Figure 1, English translated abstract); and a reflection member 26 covering all peripheral surfaces except the front one to reduce the amount of light leakage (Figure 1, English translated abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the surface light emitting device of Hashimoto et al. by providing and positioning the reflection element as taught by Honda for the benefits of reducing light leaking from the peripheral surfaces other than the front surface. It is desired to light effectively.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ellens et al. (US Patent Application Pub. No. US 2003/0006469 A1),  
Hayashimoto et al. US Patent Application Pub. No. US 2004/0211970 A1),



Sugimoto (US Patent No. 6,874,910 B2), Hayashimoto et al. (US Patent No. 6,930,332 B2) and Yasumoto et al. (US Patent No. 4,941,072 B2)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S. Sawhney whose telephone number is 571 272 2380. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jong-Suk (James) Lee can be reached on 571 272 7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/12/2008

/Hargobind S Sawhney/

Primary Examiner, Art Unit 2885

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